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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0205601N: <i>Harm Improvement</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	73.189	11.147	11.477	-	11.477	16.551	13.432	6.571	6.487	Continuing	Continuing
1780: <i>HARM Improvement</i>	26.277	1.412	1.382	-	1.382	1.345	1.362	1.429	1.459	Continuing	Continuing
2185: <i>AARGM</i>	22.397	6.684	6.995	-	6.995	7.426	5.470	5.142	5.028	Continuing	Continuing
3056: <i>Advanced Precision Kill Weapons System</i>	5.531	3.051	-	-	-	-	-	-	-	0.000	8.582
3212: <i>MEDUSA JCTD</i>	18.984	-	3.100	-	3.100	-	-	-	-	0.000	22.084
3412: <i>Hellfire-R Integration</i>	-	-	-	-	-	7.780	6.600	-	-	0.000	14.380

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation funding for the Joint Service Pre-Planned Product Improvement program which will include near and far term performance improvements, cost reduction, and studies that establish future development requirements. Specific initial efforts include lower cost seeker component development and seeker aided fuzing to enhance warhead performance in low angle impacts and against certain ship targets. This excludes civilian and military manpower and their related costs and military construction costs which will be included in appropriate management and support elements.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	14.207	11.147	8.433	-	8.433
Current President's Budget	73.189	11.147	11.477	-	11.477
Total Adjustments	58.982	-	3.044	-	3.044
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	61.050	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	3.013	-	3.013
• Rate/Misc Adjustments	-	-	0.031	-	0.031
• Congressional General Reductions	-0.068	-	-	-	-
Adjustments					
• Congressional Directed Reductions	-2.000	-	-	-	-
Adjustments					

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<u>Change Summary Explanation</u> Technical: Not applicable. Schedule: High Speed Anti-Radiation Missile Improvement - Not Applicable. Advanced Anti-Radiation Guided Missile - Re-entered Operational Test C on 10 August 2011, with planned successful completion in 2Q FY 2012. IOC slipped from 3Q FY 2011 to 3Q FY 2012, due to decertification from OT in September 2010 and the change in Initial Operational Capability (IOC) definition by Commander, Fleet Forces Command; Commander, Naval Air Forces and OPNAV N8. LRIP II deliveries commenced in 1Q FY 2012 vice 3Q FY 2011. FRP decision moved from 2Q FY 2012 to 3Q FY 2012 and Full Operational Capability has moved from 4Q FY 2013 to 3Q FY 2014, as a result of IOC change. Advanced Precision Kill Weapons Systems - Not applicable. Medusa - Not applicable Hellfire-R Integration: Not applicable		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 1780: HARM Improvement			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1780: HARM Improvement	26.277	1.412	1.382	-	1.382	1.345	1.362	1.429	1.459	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

High Speed Anti-Radiation Missile (HARM) Improvement is a Navy led joint service program with the Air Force. The program commenced production in FY 1983. Program element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (AGM-88B, Block 3 & AGM-88C, Block 4) as Engineering Change Proposals (ECPs). Another ECP software program (Block 3A & 5) was developed (FY 1996 through FY 1999) to modify HARM software in order to meet operational requirements. HARM Block 3A/5 software was distributed to the Fleet in FY 2000. The Block 5 tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block 5A is currently in test and projected to be introduced to the fleet in FY12.

HARM Improvement includes efforts to conduct Foreign Military Assessment (FMA) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: HARM (FMA)	1.547	1.412	1.382	-	1.382
Articles:	0	0	0		0
FY 2011 Accomplishments: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
FY 2012 Plans: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
FY 2013 Base Plans: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
Title: Lazer Guided ZUNI - PU 3056	24.730	-	-	-	-
Articles:	0				
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>		PROJECT 1780: <i>HARM Improvement</i>	

<u>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</u>	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Conduct a competition for up to three vendors to conduct ground launched demonstrations of their guidance section for Lazer Guided Zuni.					
Accomplishments/Planned Programs Subtotals	26.277	1.412	1.382	-	1.382

C. Other Program Funding Summary (\$ in Millions)
N/A

D. Acquisition Strategy
HARM software updates are provided through the Software Support Activity at Naval Air Warfare Center - Weapons Division (NAWC-WD), China Lake, CA.

E. Performance Metrics
Successfully complete Developmental Test/Operational Test.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 1780: HARM Improvement					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	Various	Various:Various	24.730	-		-		-		-	0.000	24.730	
Systems Engineering	WR	NAWC-WD:China Lake, CA	0.215	1.211	Nov 2011	1.185	Nov 2012	-		1.185	Continuing	Continuing	Continuing
Subtotal			24.945	1.211		1.185		-		1.185			
Remarks													
NOTE: Systems Engineering Various is a "place holder" for FY11 ATR Funding received by the FY11 OMNIBUS for Lazer Guided ZUNI. Funds were placed in the HARM Improvement Project Unit (1780) erroneously. Funds will be executed by APKWS, Project Unit 3056.													
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Eval	WR	NAWC-WD:China Lake, CA	18.363	0.192	Nov 2011	0.189	Nov 2012	-		0.189	Continuing	Continuing	Continuing
Subtotal			18.363	0.192		0.189		-		0.189			
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	Various:Various	0.412	0.009	Nov 2011	0.008	Nov 2012	-		0.008	Continuing	Continuing	Continuing
Subtotal			0.412	0.009		0.008		-		0.008			
Remarks													
Contract Type for Travel is TO													
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			43.720	1.412		1.382		-		1.382			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement			PROJECT 1780: HARM Improvement			
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>HARM IMPROVEMENT</i>				
Acquisition Milestones: Radar System Evaluation: Radar System Evaluation - Foreign Military Assessment	1	2011	4	2017
Test & Evaluation: Lazer Guided Zuni (LGZ)	2	2012	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2185: <i>AARGM</i>	22.397	6.684	6.995	-	6.995	7.426	5.470	5.142	5.028	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) Project transitioned a Phase III Small Business Innovative Research program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY 2003. The AARGM SD&D program is designed to integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning System (GPS)/Inertial Navigation System) on the HARM AGM-88 missile. AARGM weapon system capabilities include: active MMW terminal guidance, counter shutdown, expanded threat coverage, enhanced ARH, netted targeting real-time feed via Integrated Broadcast Service (IBS) prior to missile launch, weapon impact assessment transmitted prior to detonation, GPS/point-to-point weapon navigation, and weapon employment with impact avoidance zone/missile impact zones.

In June 2003, a successful Milestone B transitioned AARGM to a SD&D Acquisition Category 1C program. ATK Missile Systems Company was awarded the AARGM SD&D contract valued at \$222.6M. In May 2004, the contract baseline was increased to \$231.9M to accelerate incorporation of an embedded IBS-Receiver, enabling the warfighter to directly receive National intelligence data, providing additional AARGM targeting data to increase overall pilot situational awareness. Recent modifications have changed the current baseline to \$232.3M. The AARGM program includes 40 SD&D test articles and 1,879 production modification kits (1871 All-Up-Rounds/Captive Air Training Missiles and 8 spares).

Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. Developmental testing was completed in 2009. As a result of flight tests, a decision was made to defer a Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver until Follow-On Test and Evaluation beginning in FY 2013. Program began Initial Operational Test and Evaluation in 3Q FY 2010 but was decertified in 4Q FY 2010 as a result of intermittent hardware and software failures. Failures were corrected via software/firmware updates and the system resumed Integrated Test and Evaluation 2Q FY2011. Operational Test (OT-C) resumed in 4Q FY 2011. LRIP II deliveries began in 4Q FY 2011. LRIP III contract was awarded 4Q FY 2011, with deliveries scheduled for 3Q FY 2012. Full Rate Production (FRP) decision moved to 3Q FY 2012, with FRP Lot 1 contract award planned for 3Q FY 2012 and deliveries in 3Q FY 2013.

In FY 2012-FY 2017, the AGM-88E AARGM program plans to develop and demonstrate the capability to engage and destroy non-traditional and Overseas Contingency Operations targets through the Destruction of Enemy Air Defenses (DEAD) missions. These developments continue Future Naval Capability Science and Technology investments by the Office of Naval Research initiated in FY 2006.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: AARGM SD&D	9.772	-	-	-	-
Articles:	0				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement		PROJECT 2185: AARGM		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Three hundred hours flight test for DT/ITE/IOT&E. Four Live Fire test events.						
Title: Threat Data Library Articles:		0.600 0	2.887 0	-	-	-
FY 2011 Accomplishments: Continued update to Electronic Intelligence files and Millimeter Wave signatures.						
FY 2012 Plans: Continue to update Electronic Intelligence files and Millimeter Wave signatures to identify track and engage new and/or improved threat radars. Continue test and assessment of threat systems. Continue to update AARGM Threat Data Library.						
Title: AARGM Derivative Program Articles:		4.019 0	3.797 0	3.091 0	-	3.091 0
FY 2011 Accomplishments: Demonstration (this is classified).						
FY 2012 Plans: Continue to develop the capability to carry-out Destruction of Enemy Defenses (DEAD) missions and to attack non-traditional and Overseas Contingency Operations (OCO) targets. Also develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Updates to targets.						
FY 2013 Base Plans: Continue to develop the capability to carry-out DEAD missions and to attack non-traditional and OCO targets. Also develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Updates to targets.						
Title: Capabilities Procurement Document (CPD) Requirements Articles:		8.006 0	-	3.904 0	-	3.904 0
FY 2011 Accomplishments: Corrected IOT&E software deficiencies.						
FY 2013 Base Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>		PROJECT 2185: <i>AARGM</i>	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue development of Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver requirements in accordance with the CPD.					
Accomplishments/Planned Programs Subtotals	22.397	6.684	6.995	-	6.995

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• WPN 2327: <i>HARM Mods</i>	51.907	71.561	86.721	0.000	86.721	112.022	126.324	158.073	160.820	544.360	1,422.970

D. Acquisition Strategy	
<p>The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program, evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) Acquisition Category 1C program in June 2003. The AARGM SD&D fulfills U.S. Navy operational requirements and incorporates AARGM Advanced Technology Development and Quick Bolt Advanced Concept Technology Demonstration- demonstrated system requirements. Government responsibilities for System Development and Demonstration have included monitoring, technical assessment, and validation of contractor technology development and testing. Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. LRIP 1 deliveries commenced 3Q FY 2010.</p>	

E. Performance Metrics	
<p>Achieved Milestone C in 2008. Completed Developmental Testing in 2009. Successfully completed Operational Test Readiness Review in 2010. Successfully complete Operational Test by the end of 2Q FY 2012.</p>	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 2185: AARGM					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NSMA:Arlington, VA	3.210	0.916	Nov 2011	-		-		-	9.416	13.542	
Systems Engineering	WR	NAWC-WD:China Lake, CA	61.887	4.690	Nov 2011	4.412	Nov 2012	-		4.412	21.555	92.544	
PY Product Development	Various	Various:Various	508.323	-		-		-		-	0.000	508.323	
Systems Engineering	C/BOA	ATK:Woodland Hills, CA	13.214	-		-		-		-	0.000	13.214	
Subtotal			586.634	5.606		4.412		-		4.412	30.971	627.623	
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analyses	Various	Various:Various	0.711	-		-		-		-	0.100	0.811	
Prior Years Support	Various	Various:Various	6.160	-		-		-		-	0.000	6.160	
Subtotal			6.871	-		-		-		-	0.100	6.971	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NAWC-WD:China Lake, CA	22.332	0.342	Nov 2011	1.623	Nov 2012	-		1.623	1.815	26.112	
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	16.174	0.502	Nov 2011	0.773	Nov 2012	-		0.773	4.587	22.036	
Prior Years T &E	Various	Various:Various	7.185	-		-		-		-	0.000	7.185	
Subtotal			45.691	0.844		2.396		-		2.396	6.402	55.333	

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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Technical Services	Various	Various:Various	3.176	0.015	Feb 2012	-		-		-	0.020	3.211	
Program Management Support	Various	Various:Various	3.276	0.175	Feb 2012	0.147	Feb 2013	-		0.147	0.200	3.798	
Travel	WR	NAVAIR HQ:Patuxent River, MD	1.636	0.044	Nov 2011	0.040	Nov 2012	-		0.040	0.040	1.760	
Prior Years Mgmt	Various	Various:Various	3.276	-		-		-		-	0.000	3.276	
Subtotal			11.364	0.234		0.187		-		0.187	0.260	12.045	

Remarks
 Contract Type for Travel is TO

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	650.560	6.684		6.995		-		6.995	37.733	701.972	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AARGM				
Acquisition Milestones: Milestones: Initial Operational Capability	3	2012	3	2012
Acquisition Milestones: Milestones: Full Rate Production Decision	3	2012	3	2012
Acquisition Milestones: Milestones: Full Operational Capability	3	2014	3	2014
Test & Evaluation: Operational Evaluation: Integrated Operational Test and Evaluation	1	2011	3	2011
Test & Evaluation: Operational Evaluation: Operational Evaluation Restart	4	2011	2	2012
Production Milestones: Contract Award: Low Rate Initial Production 3	1	2012	1	2012
Production Milestones: Contract Award: Full Rate Production Lot 1	3	2012	3	2012
Production Milestones: Contract Award: Full Rate Production Lot 2	3	2013	3	2013
Production Milestones: Contract Award: Full Rate Production Lot 3	3	2014	3	2014
Deliveries: Low Rate Initial Production 1 Delivery (WPN)	1	2011	4	2011
Deliveries: Low-Rate Initial Production 2 Delivery (WPN)	1	2012	4	2012
Deliveries: Low Rate Initial Production 3 Delivery (WPN)	3	2012	3	2013
Deliveries: Full Rate Production Deliveries - Lot 1 (WPN)	3	2013	3	2014
Deliveries: Full Rate Production Deliveries - Lot 2 (WPN)	3	2014	3	2015
Deliveries: Full Rate Production Deliveries - Lot 3 (WPN)	3	2015	3	2016

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 3056: Advanced Precision Kill Weapons System			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3056: Advanced Precision Kill Weapons System	5.531	3.051	-	-	-	-	-	-	-	0.000	8.582
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Advanced Precision Kill Weapons System (APKWS) II was an Army System Development & Demonstration (SD&D) program to develop a low cost Semi Active Laser precision guidance section for existing 2.75-inch unguided rockets. APKWS II will provide an inexpensive, small, lightweight precision-kill weapon that is effective against soft and lightly armored targets, and which enhances crew survivability with increased standoff range. APKWS II offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components (warhead and rocket motors) and can be fired from LAU-61/LAU-68. SD&D program was completed 3Q FY 2010, and Milestone C was approved in 3Q FY 2010. The Low Rate Initial Production (LRIP) 1 contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract option was awarded to BAE Systems in 2Q FY 2011.

The Fixed Wing Joint Capability Technology Demonstration (JCTD) is a joint USN and USAF effort sponsored by OSD and U.S. Central Command which will modify the APKWS II from the Program of Record (POR) and conduct a demonstration on USMC AV-8B and USAF A-10 aircraft. Effort is funded with OSD funds in FY 2010 and will be funded from this program element in FY 2012.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: APKWS SD&D	5.531	3.051	-	-	-
Articles:	0	0			
FY 2011 Accomplishments: First LRIP deliveries received and shots fired with new MK152 warhead. First shots from UH-1Y (objective aircraft). First Article Testing complete.					
FY 2012 Plans: APKWS POR - Full-Rate Production decision and contract. APKWS JCTD - Technology demonstration and Military Utility Assessment.					
Accomplishments/Planned Programs Subtotals	5.531	3.051	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement			PROJECT 3056: Advanced Precision Kill Weapons System					
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PANMC/015100: Airborne Rockets (APKWS portion only)	18.475	29.273	24.998	17.850	42.848	24.572	28.430	28.793	29.049	Continuing	Continuing
D. Acquisition Strategy											
The Navy assumed the APKWS II program from the Army. The previously competed System Development & Demonstration (SD&D) Army contract to prime contractor was transferred to the Navy for continued management. The program was through Milestone B and meeting cost schedule and technical performance requirements. The Navy funded the remainder of the program to complete SD&D. The Low Rate Initial Production (LRIP) I contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract was awarded to BAE Systems in 2Q FY 2011.											
E. Performance Metrics											
APKWS II Milestone C approved in April 2010. APKWS II LRIP I awarded in July 2010. APKWS II LRIP II awarded in January 2011. APKWS II Fixed Wing Joint Capability Technology Demonstration Military Utility Assessment is scheduled for FY 2012.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 3056: Advanced Precision Kill Weapons System					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	BAE SYS:New Hampshire	22.780	0.949	Apr 2012	-		-		-	0.000	23.729	23.729
Prior Years Prod Dev	Various	Various:Various	4.106	-		-		-		-	0.000	4.106	
APKWS JCTD Contract	C/CPFF	BAE SYS:New Hampshire	6.561	-		-		-		-	0.000	6.561	6.561
Subtotal			33.447	0.949		-		-		-	0.000	34.396	
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Support	Various	Various:Various	0.624	0.100	Dec 2011	-		-		-	0.000	0.724	
Subtotal			0.624	0.100		-		-		-	0.000	0.724	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC-WD:China Lake, CA	3.781	0.758	Dec 2011	-		-		-	0.000	4.539	
Operational Testing	Various	Operational Test and Eval Force:Norfolk, VA	1.628	-		-		-		-	0.000	1.628	
Prior Years T&E	Various	Various:Various	3.900	-		-		-		-	0.000	3.900	
Subtotal			9.309	0.758		-		-		-	0.000	10.067	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>				PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWC-WD:China Lake, CA	4.347	0.710	Dec 2011	-		-		-	0.000	5.057	
Program Management Support	Various	Various:Various	1.706	0.485	Dec 2011	-		-		-	0.000	2.191	
Travel	WR	NAVAIR HQ:Patuxent River, MD	0.300	0.049	Nov 2011	-		-		-	0.000	0.349	
Subtotal			6.353	1.244		-		-		-	0.000	7.597	

Remarks
 Contract Type for Travel is TO

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.733	3.051		-		-		-	0.000	52.784	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Advanced Precision Kill Weapons System</i>				
Acquisition Milestones: Milestones: Initial Operational Capability	2	2012	2	2012
Acquisition Milestones: Milestones: Full Rate Production (FRP) Decision	3	2012	3	2012
System Development & Demonstration: Joint Capability Technology Demonstrations: Joint Capability Technology Demonstration (JCTD)	1	2012	4	2012
System Development & Demonstration: Joint Capability Technology Demonstrations: JCTD Military Utility Assessment (MUA)	4	2012	4	2012
Test & Evaluations Milestones: Initial Operational Test and Evaluation: APKWS Initial Operational Test and Evaluation	2	2012	2	2012
Production Milestones: Contract Awards: Low Rate Initial Procurement 2 (PANMC)	2	2011	2	2011
Production Milestones: Contract Awards: Full Rate Production I	3	2012	3	2012
Production Milestones: Contract Awards: Full Rate Production II	3	2013	3	2013
Production Milestones: Contract Awards: Full Rate Production III	3	2014	3	2014
Production Milestones: Contract Awards: Full Rate Production IV	2	2015	2	2015
Production Milestones: Contract Awards: Full Rate Production V	2	2016	2	2016
Deliveries: Low-Rate Initial Production LRIP I: APKWS Low Rate Initial Procurement 1 (LRIP) Deliveries (RDTE)	2	2011	1	2012
Deliveries: Low-Rate Initial Production LRIP II: APKWS LRIP 2 Deliveries (PANMC)	2	2012	1	2013
Deliveries: Full Rate Production: FRP I Deliveries	3	2013	2	2014
Deliveries: Full Rate Production: FRP II Deliveries	3	2014	2	2015
Deliveries: Full Rate Production: FRP III Deliveries	3	2015	2	2016
Deliveries: Full Rate Production: FRP IV Deliveries	3	2016	2	2017
Deliveries: Full Rate Production: FRP V Deliveries	3	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 3212: MEDUSA JCTD			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3212: MEDUSA JCTD	18.984	-	3.100	-	3.100	-	-	-	-	0.000	22.084
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Medusa Joint Capability Technology Demonstration (JCTD) will demonstrate the Low Cost Guided Imaging Rockets (LOGIR) technology currently being developed at the Naval Air Warfare Center Weapons Division China Lake on the MH-60S. LOGIR provides "fire and forget" capability to 2.75-inch rockets in support of Sea Shield Pillar, increases platform lethality against Fast Attack Craft (FAC)/Fast Inshore Attack Craft (FIAC) threat, provides a low-cost Imaging InfraRed precision guidance section for the existing 2.75-inch unguided rockets and provides maximum precision kills per sortie, low cost, minimum collateral damage, increased efficiency, and increased standoff. OSD is also providing funding for this effort. Initial Program documentation (i.e. Performance Spec, Capabilities Development Document) will be developed within the scope of the JCTD.

FY13 funding is provided for the high capacity 2.75 inch Digital Rocket Launcher (DRL) provides incremental capability to MH-60S (unguided rockets and/or APKWS with spiral development to LOGIR). Addresses FAC/FIAC threat between Medusa JCTD and LOGIR Program of Record (POR). Reduces risk and lowers cost of LOGIR POR by separating DRL from POR.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MEDUSA JCTD	6.784	-	-	-	-
Articles:	0				
FY 2011 Accomplishments: Continue demonstration of the LOGIR technology on the MH-60S. First ground shots of new prototype LOGIR weapon from Korean seven tube rocket launcher. Launcher electronics assembly used to pass targeting information to weapon's guidance section is a new design required for employment of LOGIR weapon.					
Title: Digital Rocket Launcher	12.200	-	3.100	-	3.100
Articles:	0		0		0
FY 2011 Accomplishments: The Digital Rocket Launcher Rapid Deployment Capability was approved by ASN(RDA). The Acquisition Strategy is currently being written for approval. The DRL Integrated Product Team was formed and the baseline IMS completed. DRL Technical Performance requirements have been derived to support the specific RDC operational need. The software Interface Control Document has been completed. Drawings and specifications (Technical Data Package [TDP] are being written/updated. Three CMBRE test units have been procured. Risk Management Board (RMB) has been formed and RMB reviews periodically held. First delivery order with					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Arnold Defense & Electronics (AD&E) will be awarded for test asset hardware and long lead item procurement. Lockheed Martin and Sikorsky aircraft are planned to go on contract (through PMA-299) 3Q FY2012 for software and hardware integration on the MH-60S. Component testing will begin towards the end of the FY and Test plan will be drafted. <i>FY 2013 Base Plans:</i> FY13 Baseline funding will be used for the development of a Digital Rocket Launcher for 2.75 rockets. Delivery order with AD&E will be awarded for Test asset manufacturing. Electronic circuit boards will be assembled, and test plan completed. Aircraft integration, Qualification testing and all additional test requirements to include shipboard certification testing will be completed. Class I Engineering Change Proposal will be created and completed. NATOPS, support equipment, maintenance plan and training will be updated to include DRL.					
Accomplishments/Planned Programs Subtotals	18.984	-	3.100	-	3.100

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 0603648D8Z: <i>Project#648, DUSD (AS&C)</i>	3.605	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.605
• RDTEN 0603790N: <i>NIPO Research and Development</i>	1.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.395

D. Acquisition Strategy

The MEDUSA Joint Capability Technology Demonstration is a technology demonstration by DoD government activities.

E. Performance Metrics

Integration and Demonstration are schedule to continue until 2Q FY12. Performance Spec and Capability Development Document will be completed in 4Q FY12.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 3212: MEDUSA JCTD					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPFF	Sikorsky:Stratford, CT	3.845	-		-		-		-	0.000	3.845	3.845
Prior Years Prod Dev	C/CPFF	Raytheon:Crane, IN	2.102	-		-		-		-	0.000	2.102	2.102
Systems Engineering	WR	NAWC-WD:China Lake, CA	7.878	-		-		-		-	0.000	7.878	
Product Development (DRL)	TBD	Lockheed Martin:Owego, NY	2.000	-		0.500	Jan 2013	-		0.500	0.000	2.500	2.500
Systems Engineering (DRL)	WR	NAWC-AD:Patuxent River, MD	0.781	-		0.255	Nov 2012	-		0.255	0.000	1.036	
Systems Engineering (DRL)	Various	NAWC-WD:China Lake, CA	4.436	-		-		-		-	0.000	4.436	
Systems Engineering (DRL)	Various	NSWC:Indian Head, MD	2.673	-		0.400	Dec 2012	-		0.400	0.000	3.073	
Subtotal			23.715	-		1.155		-		1.155	0.000	24.870	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation (DRL)	WR	NSWC:Indian Head, MD	-	-		0.400	Feb 2013	-		0.400	0.000	0.400	
Test & Evaluation (DRL)	WR	NAWC-WD:China Lake, CA	-	-		0.750	Jan 2013	-		0.750	0.000	0.750	
Test & Evaluation (DRL)	WR	NAWC-AD:Patuxent River, MD	-	-		0.400	Dec 2012	-		0.400	0.000	0.400	
Developmental Testing (MEDUSA)	C/CPFF	DMEA:McClellan, CA	0.077	-		-		-		-	0.000	0.077	0.077
Developmental Testing (MEDUSA)	C/CPFF	Lockheed:Owego, NY	4.077	-		-		-		-	0.000	4.077	4.077
Training & Test Set	SS/FFP	Wright Patterson AFB:Wright Patterson, OH	0.310	-		-		-		-	0.000	0.310	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>				PROJECT 3212: <i>MEDUSA JCTD</i>						

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			4.464	-		1.550		-		1.550	0.000	6.014	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWC-AD:Patuxent River, MD	-	-		0.350	Dec 2012	-		0.350	0.000	0.350	
Travel	WR	NAVAIR:Patuxent River, MD	0.021	-		0.045	Dec 2012	-		0.045	0.000	0.066	
Program Management Support	WR	NAWC-AD:Patuxent River, MD	0.479	-		-		-		-	0.000	0.479	
Program Management Support	C/CPFF	AMEWAS:California, MD	0.188	-		-		-		-	0.000	0.188	0.188
Subtotal			0.688	-		0.395		-		0.395	0.000	1.083	

Remarks
 Contract Type for Travel is TO.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.867	-		3.100		-		3.100	0.000	31.967	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Digital Rocket Launcher (DRL) & MEDUSA JCTD				
System Development & Demonstration: Capability Development Document: Capability Development Document (MEDUSA-JCTD)	4	2012	4	2012
System Development & Demonstration: Performance Spec: Perf Spec (MEDUSA-JCTD)	4	2012	4	2012
System Development & Demonstration: DRL Design: DRL Design	1	2012	2	2012
System Development & Demonstration: Technical Readiness Review (DRL): Technical Readiness Review (DRL)	4	2012	4	2012
System Development & Demonstration: Interim Flight Clearance (DRL): interim flight clearance (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Integration & Demonstration: Integration & Demonstration (MEDUSA-JCTD)	1	2011	2	2012
Test & Evaluations Milestones: Regression Test: Regression Test (MEDUSA JCTD)	1	2012	1	2012
Test & Evaluations Milestones: Captive Carry Test: Captive Carry Tests (MEDUSA JCTD)	2	2012	2	2012
Test & Evaluations Milestones: Quick Reaction Assessment (DRL): Quick Reaction Assessment (DRL)	4	2013	2	2014
Test & Evaluations Milestones: A/C Software Development and Software Test (DRL): A/C Software Development and Software Test (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Vibration Testing (DRL): Vibration Testing (DRL)	3	2012	3	2012
Test & Evaluations Milestones: 1st Ground Launch Test (DRL): 1st Ground Launch Test (DRL)	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0205601N: Harm Improvement				PROJECT 3412: Hellfire-R Integration			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3412: Hellfire-R Integration	-	-	-	-	-	7.780	6.600	-	-	0.000	14.380
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification AGM-114-R is an Engineering Change Proposal to the fielded AGM-114-K,K2,K2A, P,P2, P2A and AGM-114-M missiles. It is intended to address safety, reliability and producibility issues while maintaining the current lethality of fielded versions of the Hellfire missile. The Department of the Navy (DoN) has participated in the development of the AGM-114R, which provides full Unmanned Air Vehicle (UAV), FW (Harvest Hawk) and RW Capabilities. The AGM-114R also increases lethality (Trajectory Shaping), increases Engagement Envelope (360 deg) and roll-tip off safety issues. The AGM-114R will maximize the Warfighter's' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft. RDT&E funding will support a combination of ground software validation efforts, E3 environmental studies, and aircraft interface and launcher signal validations. In addition, Development Test/Operational Test (DT/OT) Flight tests using all-up rounds will be performed during backwards compatibility System Qualification Testing (SQT).											
B. Accomplishments/Planned Programs (\$ in Millions) N/A											
C. Other Program Funding Summary (\$ in Millions) N/A											
D. Acquisition Strategy The US Army is currently in the developmental test phase of the AGM-114R and qualifying both the Integrated Blast Fragmentation Warhead as well as the Production Pilot Line. Missiles from this first Low Rate Initial Production will support Army/Air Force DT/OT Firings as well as Live Fire Test and Evaluation in FY13. FY14 Full Rate Production will support Army and Air Force fielding and will be used to provide missiles to support US Navy Platform Integration. A total of 20 AGM-114R missiles and 4 Romeo CATMS will be procured to support this integration.											
E. Performance Metrics Successful completion of Army Live Fire Test and Evaluation in FY 14.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3412: <i>Hellfire-R Integration</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3412: <i>Hellfire-R Integration</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hellfire-R Integration</i>				
Acquisition Milestones: Army IOC	4	2013	4	2013
Test and Evaluatoin: System Qualification Testing	4	2013	4	2015
Test and Evaluatoin: AH1W/Z DT/OT	1	2014	4	2014
Test and Evaluatoin: KC-130J Harvest Hawk	3	2014	2	2015
Test and Evaluatoin: MH-60R/S DT/OT	1	2015	4	2015
Test and Evaluatoin: OT Live Fire Events 1	2	2014	2	2014
Test and Evaluatoin: OT Live Fire Events 2	4	2014	4	2014
Test and Evaluatoin: OT Live Fire Events 3	1	2015	1	2015
Test and Evaluatoin: OT Live Fire Events 4	4	2015	4	2015
Production Milestones: Army Phase I & II SQT12 Completion	1	2013	1	2013
Production Milestones: HF Romeo Pilot Line	1	2013	4	2013
Deliveries: AUR LRIP 1	1	2014	1	2014
Deliveries: House Mouse/CATM	4	2013	4	2013